

I. Project Title and Project Purpose Statement

Title: Learning Social and Environmental Responsibility via Waste Reduction

Goal: Implement a comprehensive composting program in schools in Beverly, MA (01915) and Manchester/Essex, MA (01944) as a form of waste reduction to reduce pollution. In addition, integrate a system of food reclamation at the compost separation stations. Untouched, unwanted food items that would have been otherwise thrown out or composted will be set aside to be shared with others. One in every six children enrolled in school in Beverly and Manchester qualifies for a federal subsidy for free or reduced lunch. Some schools have as much as 38% of the school population on the free and reduced lunch program. Though called “Free and Reduced Lunch”, the federal school lunch program also entitles the children to eat breakfast. Thus, it is not surprising that these students often arrive at school hungry. Furthermore, they cannot afford to bring snacks to help them through the school day. A hungry child is less likely to learn because they cannot concentrate. By encouraging students to sort their food at the compost stations, food reclamation happens; hungry children are fed; pollution is reduced. Both Beverly, MA and Manchester, MA send their waste to an incineration facility. Institution of district wide environmental education program that culminates in the children sorting their food waste to reclaim usable items and compost the rest will reduce solid waste, and thus addresses the **Solid Waste Disposal Act**, Section 8001(a). In addition, because Beverly and Manchester/Essex incinerates their waste, reduced waste means less air pollution created. In this way, this program addresses the **Clean Air Act**, Section 103(b)(3). This project does not have a climate resiliency focus.

II. Environmental, Public Health and Community Climate Resiliency (if applicable)

The local environmental issue that this project seeks to address is improved air quality and lower pollution levels. This can be achieved via waste reduction via composting. In both target communities which are located north of Boston along Massachusetts Bay, a subset of the schools compost as of the writing of this grant application. In that subset of schools, the amount of waste sent to the incineration facility has been reduced. The reduced waste results in less pollution being created. The increased compost leads to better resources to grow local produce. That local produce is made available both in the schools and in the low income areas of Beverly via a program called the Mobile Market. It is well documented that low income families have less access to healthy food options. Local gardening, access to nutrient enriched soil to grow produce, access to produce via the Mobile Market all help combat obesity and hunger in towns that have a wild dichotomy of wealth. As oceanfront communities, both Beverly and Manchester have high wealth residents. However, they both have low income populations as well. The local resource assistance organization, Beverly Bootstraps reports that 40% of all local households require *some* type of assistance at some point in time of the year. Bootstrap types of assistance come in the form of the food pantry, or resume writing/job search assistance, housing stability, fuel assistance and more. The dichotomy of wealth comes historically from the required income to be able to afford the oceanfront properties, and then the working class required to support

those of higher wealth, including but not limited to port workers. Beverly has been called the “birthplace of the American Industrial Revolution” as the site of the first cotton mill in America (1787). In 1902 the United Shoe Machinery Corporation built a quarter-mile stretch of factory buildings in which many locals were employed. In neighboring Manchester, the community was a fishing mecca for over 200 years before it became the preferred choice of affluent Boston businessmen looking for a summer retreat.

According to the 2010 census, Beverly, MA has a population of 39,502 people, 83.4% of whom are white, 2.6% African American, 2.3% are Hispanic or Latino, 0.2% Native American, 8.% Asian, 0.03% Pacific Islander, 0.52% from other races and 1.6% from two or more races. The public school population has an average of 33% who qualify for the federal free and reduced lunch program. The much smaller community of Manchester, MA has a population of 5,136 according to the 2010 census, of which 97.6% are white, 1.5% Hispanic or Latino, 0.1% African American, 0.2% Native American, 0.9% Asian, 0.1% other races, and 1.1% from two or more races. Combined, the schools of the two communities have an average of 24% of the student body in the federal free and reduced lunch program. Some schools have 38% of their population on the subsidized food program. These students often arrive at school hungry. They cannot afford to bring snacks to help them through the school day. A hungry child is less likely to learn because they cannot concentrate. By encouraging students to sort their food at the compost stations, food reclamation happens; hungry children are fed; pollution is reduced.

III. Organization’s Historical Connection to the Affected Community

The Beverly Education Foundation, Inc. (BEF) was established in 1997 to stimulate innovation and excellence by supporting educational programs that are outside normal public funding and to maintain a permanent fund to implement and continue such programs and activities. Since its inception, over \$170,000.00 has been infused into the schools. BEF believes that good schools are essential to the civic health of our community. Thus we strive to bring schools and citizens together to improve public education, to help our schools teach children to strive for excellence, to open young minds, and to expand the horizons of knowledge. BEF endeavors not only to enhance the lives of Beverly’s children, but in doing so, strengthen the community as a whole, now and in the future, in Beverly and beyond.

Starting in 2002, BEF has financially supported local programming called Family Math and Science Nights (FM&SNs). The basic principal of this programming is that older children teach younger children *and* their parents in an evening program. By involving the family, learning can continue at home. These FM&SNs include a program called Energized that teaches clean and alternative energy sources as well as energy conservation. In addition the Wonders of Water program teaches the value of the water resources, sources of water pollution, how to combat water pollution and how to conserve water. Recently two new programs have been added: Backyard Bugs and Owls (Birds of Prey) both of which deliver an understanding of the food chain including soil science and composting concepts.

In 2012 BEF was awarded a grant from the Cummings Foundation to fund environmental education to students K-8th grade. This environmental education is aligned to the state science curriculum standards developed and delivered by Change is Simple. In addition to environmental education, BEF has a focus around STEM (Science, Technology, Engineering and Math). Specifically, BEF funds are being invested to train more students in 21st Century skill sets in order to best prepare them to enter the work force. Studies show that upwards of 50% of future jobs will require some type of STEM training. Alternative energy sources and energy conservation are two areas where technology and science will make a major impact.

BEF is comprised of a network of volunteer parents, educators, students and businesses. Each school and members of the general public are welcome to be members; all meetings are open and the public is welcome to attend. Each year in the late spring BEF facilitates the “honor an educator” event in which families can give a donation in the name of a teacher that has made a positive impact on their child. Hundreds of teachers have been so honored over the years, thus bringing BEF closer with both the families of student aged children and those educating them.

Recently BEF has expanded its funding to include a speaker series. The first speaker was Archivist of the United States, David Ferriero in October of 2014. The AOTUS spoke to the positive impact his English teacher had on him when he attended Beverly High School. The next scheduled speaker is Dr Yong Zhao, who is the Presidential Chair of Educational Methodology at the University of Oregon in Eugene, OR. He will speak about the educational issues of 21st century schools and learning in the US as well as globally in April of 2015.

Beyond Beverly, across the entire North Shore, green initiatives are taking place via the North Shore Sustainability Partners (NSSP). The intent of NSSP is increased collaboration among North Shore schools and specifically around advancing sustainability efforts. A core strategy involved identification and pursuit of common goals and projects. In the last several years, the program has extended its reach to over 90 partners representing a wide range of entities including non-profit and for profit businesses, public and independent schools, colleges and universities, independent environmental groups, local citizens, and state agencies. The NSSP mission is achieved by building relationships among these participating schools and associated community organizations as they pursue initiatives in sustainability education and operations. Specific strategies include sharing promising practices, cooperating on common projects, and supporting each other in achieving agreed-upon goals. The director of NSSP, Eric Magers, is also the director of the Green Scholars program and the Green Team at MERSD as well as a Green Interns Teacher.

By combining the strengths of BEF with that of Mr. Magers and NSSP, we are best prepared to rollout this initiative in the two communities.

IV. Project Description

The Learning Social and Environmental Responsibility project is designed to achieve two main goals:

- 1) reduce solid waste (which in turn will reduce the amount of pollution) via composting
- 2) implement food reclamation to feed the ever-growing student population that qualifies for federal food subsidies

To accomplish these goals, the environmental education specialists, Change Is Simple, will teach the students the basics of soil science, the environmental impact of waste reduction and how to compost. Change is Simple has been recognized on the MA state level for their efforts to educate our youth how their actions impact the environment by being awarded the Massachusetts Secretary's Award for Excellence in Environmental Education.

During each lesson taught by Change Is Simple, students are engaged with hands-on games and activities that demonstrate how they can impact the environment every day. While engaged in these activities, they learn valuable lessons and are empowered to share what they have learned with their families. In this way, by educating the youth, the entire community is being educated.

Once educated on soil science, life cycle of plants and gardening, as well as healthy eating, the students will better understand how and why to sort their waste. They will sort their waste at school served breakfast and lunches. The waste will be divided into one of four categories:

- a) recycling (example: plastic milk bottles)
- b) untouched food that could be consumed later in the day (example: piece of fruit)
- c) compostable, organic waste (example: food scraps, paper goods)
- d) trash (any item that cannot be placed in one of the other three areas. One example of an item that cannot be recycled or composted is a potato chip bag. Due to how that bag is manufactured, the bag must be put into the garbage).

As partners, Northeast Solid Waste and Black Earth Haulers will be contracted to include the additional schools not yet composting in both districts to haul the compost from the schools to the local farms. This project will produce local environmental results of less waste sent to the incinerator. Less waste incinerated means less pollution created. Less pollution means better air quality for all members of the community. In addition, the reclaimed food can be given to any student that is hungry.

The Beverly Education Foundation has been supporting innovative programming in the public schools since its inception in 1997. Change is Simple started delivering environmental education to students in 2010. Green City Growers (through a grant obtained by Be Healthy Beverly) delivered life science/soil science/plant cycle education to the elementary children during the school year last year (2013-2014 school year). Be Healthy Beverly includes community members from Lahey Health, the YMCA of the North Shore, the school committee, the

department of health, parks and recreation, the chamber of commerce, North Shore United Way, food services, and Beverly Bootstraps. Be Healthy Beverly purchased vegetable bars (much like a salad bar) to all the elementary schools in Beverly and continue to work with local famers (most notably Morraine farms) to have local produce supplied to those vegetables bars. See <http://www.behealthybeverly.org/success-stories/> for pictures and more information on this initiative. See <https://www.youtube.com/watch?v=tICIXMLfk30> for a video produced to show many of the initiatives in the elementary schools. The Health Advisory Council brings together other members of the various schools to ensure all the schools are working to accomplish the same goals around the health of the students. Activities from this group include organized walk to school days, taste test Tuesdays as well as the food share tables (food reclamation). Many of those activities are show in the youtube video referenced above. If children taste a food, they are more likely to eat it when it is served at lunch. If they eat it instead of throwing it out, then there is less waste. Each of these partnerships exists and remains active. The expectation is that each will remain active.

The long term goal of this project is to build up the capacity of both Beverly and Manchester communities to create self-sustaining community partnerships that will improve the local environments and is in line with both the long term goals of the Solid Waste Disposal Act and the Clean Air Act. This environmental justice grant allows BEF and MERSD to expand and extend these partnerships to implement a comprehensive composting program including food reclamation for the purposes of reducing pollution and helping to feed the children who qualify for free and reduced lunches. It is worth noting that school nurses and teachers routinely report these children arrive at school hungry. A hungry child cannot concentrate on their studies. Analysis of standardized test schools show that these children who are living near or below the poverty level have lower scores that the other students in the school. These are the students who most need to be able to concentrate and soak in the education being delivered. There is food being wasted in the cafeterias. By reclaiming the food that would otherwise be wasted, the hungry children can be fed, waste levels are reduced, and thus pollution is lowered.

As of this writing, some schools in Beverly and Manchester compost, some do not; some have share tables, some do not. Manchester schools started working with Change Is Simple in 2009 and composting in 2010. They have data from 2010 through 2014 that shows a monetary savings by switching to composting. Their program was so successful that the town of Manchester started a curbside composting program! It was this same success that inspired the students at Beverly High, with the help of Change Is Simple, to begin composting in January of 2013. It was during the initial compost trials at Beverly High that the concept of the share table was born. Composting at Beverly High has been so successful that now the middle school in Beverly is also composting. This year Manchester, taking the lead from Beverly, has started to try to incorporate a share table into their very well established composting model. The desired outcome for this initiative is to have all the schools doing both composting and food reclamation via the share tables.

A set of very positive side effects of the compost is centered around the compost itself. Our local farms have nutrient enriched soil to grow local produce. That produce is supplied back to the schools to be served in the vegetable bars in the cafeterias. In addition, the compost is given to the schools to use in their raised bed gardens. Those gardens are used by the Green City Growers (<http://growmycitygreen.com>) to deliver further educational programming. Children are taught about the plant lifecycle as well as healthy eating. Finally, all local residents have access to the nutrient rich soil produced from the compost for use in their own gardens.

V. Organizational Capacity and Programmatic Capability

Thus far, BEF has been awarded over \$149,500.00 in grant awards since inception. Each of the following is a competitive grant from local organizations:

- 1) Cummings Foundation 100K for 100
- 2) Institution for Savings
- 3) Danvers Charitable Foundation
- 4) Cell Signaling and
- 5) Beverly Cooperative.

BEF has tracked and managed these grants and others, seen to their proper disbursements and reported on a timely basis the impact of the grant through using excel spreadsheets and income and expense statements. BEF Treasurer Adam Winn, a specialized commercial loan officer with Reading Cooperative, in Reading, MA now keeps the books of the Foundation through extensive spreadsheets to account for the various grant awards going in along with all expenses and disbursements out. BEF would employ the same technique in accounting for, managing, and expending any and all federal funds received pursuant to this Grant. Each school's BEF board member is involved at the school in seeing that the grant funds are used for their intended purpose.

How the applicant has successfully managed these projects in the past: BEF insists upon Grant Agreements being signed by all grant recipients to timely report expenses and impacts of their respective grants. Expense receipts must equal the amount of the grant. In addition, evaluation and impact reports must accompany the expense sheets.

How the applicant plans to effectively manage and successfully complete this proposed project: The BEF will assemble all parties involved in this endeavor to obtain grant agreements regarding the funding. The Foundation is already assisting in conducting composting and recycling in the schools as well as working with the various groups outlined herein. Many of the groups involved are non-profit as well, with the students providing the sorting and reclaiming of the food to be used on the share tables.

Organizational experience (or the ability to obtain such experience) to successfully achieve the goals of the proposed project: BEF has a proven record of organizational experience in promoting and championing environmental education in the Beverly Public Schools and in conducting quality programming to help foster the paradigm shift of teaching students the benefits of solid waste reduction as well as the sharing of food that would be otherwise be thrown out. Proof of this lies in the number of tons of waste sent to compost from both communities, as well as the reduced cost of tipping fees (the fees paid to the incineration facility). Further proof lies in the fact that the Beverly middle school has started composting this year based on the success of the high school project.

Many different organizations across the North Shore help those in need of help. The Beverly Education Foundation has a track record of helping those students who qualify for federal subsidies. An example program is the 1 to 1 Learning Initiative at Beverly High school. The goal is for every student to have a device (currently a laptop) on which to do their research and school work. Technology is fully integrated into all subject matters. Students who cannot afford to be in the laptop lease program can get funding from the BEF so that they can have a laptop to use for their studies. Three levels of subsidies are available: 60%, 40% or 20%. Noteworthy is that the subsidies include helping families who do not qualify for free and reduced lunch; rather, they are stuck in the digital divide. President Bill Clinton first coined the term Digital Divide in his 2000 State of the Union Speech. The Digital Divide refers to those families and groups that do not have access to the internet nor do they possess the literacy of technology. Families which make less than \$75,000.00 annually are considered to fall within the Digital Divide, (Falling Through the Net, Defining the Digital Divide, NT&I Admin.). BEF has assisted over 1000 students with subsidies in the four years of the 1 to 1 Learning Initiative.

Additional assistance to gain access to technology is being provided via a pilot program whereby BEF is funding the actual internet signal into subsidized housing units. Only those students who are in the high school technology program can access this BEF subsidized internet signal. Though the signal is being brought into the subsidized housing building, it is not open to all residents. This is a pilot program that is just getting off the ground. The rationale is that if BEF has to help fund the physical machine due to finances, given the digital divide, it is likely that once the student goes home, they have no internet access. What good is the machine if they cannot access the internet? One inspiration for this particular program was the fact that many students with BEF subsidized laptops were seen sitting outside the high school or in local businesses in order to access free wifi. Should this program show a fair amount of use, then it will be expanded to include other subsidized housing units across the community.

The cumulative effect of these funding initiatives is to try to help those disadvantaged youths have a chance to break the poverty cycle. Feeding the hungry children via the food reclamation in this proposal is one more example of helping those in need.

If the applicant has been a recipient of an EPA and/or other Federal grant/cooperative agreement in the last five years, please indicate past performance in meeting reporting requirements (e.g., progress reports, financial status). Please also include the name of the Project Officer overseeing the grant/cooperative agreement and the assistance agreement number associated with the project(s): This grant application is the BEF's first application for a federal grant award. Accordingly, BEF and its Board of Directors and volunteers have no prior experience in managing federal funds.

VI. Qualifications of the Project Manager (PM)

The qualifications of the PM as they relate to the project: Attorney Anna T Green was an original incorporator of BEF and has been continuously involved in the affairs of BEF since inception. She now serves as the Vice-President, and previously had served as the Treasurer for 16 years. Attorney Green along with BEF President Douglas Walker implemented the grants programs in 2002. Since then she has implemented a system wide grants review process with final evaluations scrutinized as to the efficacy of the grant award. She has provided oversight and evaluation of the grant awards to the various schools and teachers receiving BEF grant money. She has also acted as the project manager/liason with all organizations which have awarded BEF grant monies with all reporting duties.

How the PM has ties to the community and/or organization: Anna T Green has lived in Beverly with her husband George for 26 years and has raised her two children here. While her children were in elementary and middle school, Ms Green was involved in both the Beverly Education Foundation and public education and funding for innovating programming in the schools. She served on the Site Council of both Cove Elementary School and Briscoe Middle School as well as worked on the Arts and Enrichment Committee of Briscoe Middle School to provide programming for middle school students.

Additional community involvement is of a social nature. Organizational involvement ranges from incorporating the Foundation, to filling the role as treasurer, clerk and now Vice President. In addition, she fills the roll of the project manager/liason for grant monies that require reporting.

Past activities that the PM has worked on with the community: Attorney Green has practiced law for 30 years and a member of the Massachusetts Bar Association, Boston Bar Association, and the Essex County Bar Association. She has a Masters in Tax Law from Boston University and specializes in wills, probate, and estate planning and routinely represents low income clients. Ms Green is a member of the North Shore YMCA and St. Mary Star of the Sea Parish and Choir. Her and her husband are members of the Jubilee Yacht Club, Bass River Tennis Club, and the Beverly Historical Society.

VII. Past Performance in Reporting on Outputs and Outcomes

A list of any Federal or non-Federal grants or cooperative agreements (not Federal contracts) of similar size, scope, and relevance to the proposed project that you worked on within the past three (3) years (no more than five (5) agreements, preferably EPA agreements). Please include the grant or cooperative agreement number, title of the project, the amount of funding, funding agency or organization, and point-of-contact:

The Beverly Education Foundation has received the following grants/amounts:

- 1) Cummings Foundation
Grant/Agreement number: No number
Title: Enhancing STEM & Conservation in Beverly, MA
Amount: \$100,000.00 taken over three years
- 2) Institution for Savings
Grant/Agreement number: No number
Title: 21st Century Skills for All
Amount: \$10,000.00 as a one year award)
- 3) Danvers Charitable Foundation
Grant/Agreement number: No number
Title: 21st Century Skills for All
Amount: \$12,500.00 as a one year award
(With a request from the awarding entity to have us apply again next cycle.)
- 4) Cell Signaling
Grant/Agreement number: No number
Title: Expanding Science Opportunities
Amount: \$2,500.00 as a one year award
- 5) Beverly Cooperative
Grant/Agreement number: no number
Title: 1 to 1 Learning Initiative
Amount: \$10,000.00 taken over five years

Each of these grants has Anna T Green as the point of contact

A description of how you have documented and/or reported on progress towards achieving the expected outputs and outcomes under prior and/or current assistance agreements: For each of the above, the Beverly Education Foundation insists upon Grant Agreements being signed by all grant recipients to timely report expenses and impacts of their respective grants. Expense receipts must equal the amount of the grant. In addition, evaluation and impact reports must accompany the expense sheets. These items are collected from each participating partner or party and then collated by BEF. BEF then reports up to the awarding entity with the partner data as well as data of their own. BEF Board members will be directly involved in the projects being funded. Restated: BEF board members will be at each of the schools where composting

and food reclamation projects are run. They will report back to BEF first hand of the progress as well as any problems.

If you did not make any progress towards achieving the expected outputs and outcomes, describe whether you have documentation and/or reports satisfactorily explaining why: The Beverly Education Foundation is proud to report that for each awarded grant, all desired goals have been met and reported upon. Not all grants are finished yet; however for those still in process, each is on target to meet all desired goals. We believe strongly that our goals are realistic when we author our grant proposals. We only pursue projects for which we believe there is strong community support; thus helping to ensure the success of the project. Finally, each project for which we have sought funding is a project in which we have multiple partners. We are not attempting to undertake projects single-handedly; rather, we are forming coalitions of like-minded groups in the community who are willing to work together to achieve common goals.

VIII. Quality Assurance Project Plan (QAPP) Information

Indicate whether you believe that your project will involve the use of existing environmental data or the collection of new data (use the checklist in Appendix I to assist you in making this determination). At this point in time, we do not believe our project requires use of a QAPP. However, it is highly likely that we will incorporate one.